

Appl'n No. 10/050,249
Final Amendment and/or Response
Reply to final Office action of 1 March 2004

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Amendments to the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Previously presented) A lighting device for generating mixed colors, which device comprises a light emission surface and a plurality of light sources of different colors, including an optical waveguide plate into which a plurality of cavities is provided, each cavity accommodating a light source, and each cavity having an upper side facing the light emission surface and side walls, said upper side being coated with a first reflecting layer, while the coupling of the light into the optical waveguide plate takes place through the side walls.

2. (Previously presented) The lighting device of claim 1, wherein the side walls of the cavities extend substantially perpendicularly to the light emission surface, and the upper sides of the cavities extend substantially parallel to the light emission surface.

3. (Previously presented) The lighting device of claim 1, wherein the cavities are coated with a second reflecting layer at their lower sides opposite to the upper sides.

4. (Previously presented) The lighting device of claim 1, wherein the cavities are substantially cylindrical.

5. (Previously presented) The lighting device of claim 1, wherein the cavities are provided in a lower side of the optical waveguide plate.

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6. (Previously presented) The lighting device of claim 1, wherein the light sources comprise a plurality of red, green, and blue light-emitting diodes which are distributed such that no light sources of the same color lie in mutually adjoining cavities.

7. (Previously presented) The lighting device of claim 3, wherein the second reflecting layer extends over the side faces and the a lower side of the optical waveguide plate.

8. (Previously presented) The lighting device of claim 7, wherein the second reflecting layer is at a distance from the optical waveguide plate, which distance constitutes an air gap.

9. (Previously presented) The lighting device of claim 1, wherein the first reflecting layer is prolonged by a portion continuing horizontally into the optical waveguide plate.

10. (Previously presented) The lighting device of claim 1, wherein the first reflecting layer is prolonged by a portion continuing along the side walls of the cavity.

11. (Previously presented) The lighting device of claim 1, wherein the edges of the cavities lying opposite the upper side are surrounded by a third reflecting layer.

12. (Previously presented) A liquid crystal display incorporating the lighting device of claim 1.

13. (Previously presented) A lighting device, comprising:
a housing;
a plurality of light sources of different colors; and
an optical waveguide plate disposed within the housing, the optical waveguide plate having a light emission surface,

wherein a plurality of cavities are defined within the optical waveguide plate, each cavity accommodating one of the light sources, each cavity having an upper

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side facing the light emission surface and side walls, said upper side being coated with a first reflecting layer, wherein the coupling of the light into the optical waveguide plate takes place through the side walls, and

wherein the optical waveguide mixes the colors of the light sources to output a mixed color light through the light emission surface.

14. (Previously presented) The lighting device of claim 13, wherein the light sources comprise a plurality of red, green, and blue light-emitting diodes which are distributed such that no light sources of the same color lie in mutually adjoining cavities.

15. (Previously presented) The lighting device of claim 13, wherein the cavities are coated with a second reflecting layer at their lower sides opposite to the upper sides.

16. (Previously presented) The lighting device of claim 15, wherein the second reflecting layer extends over the side faces and a lower side of the optical waveguide plate.

17. (Previously presented) The lighting device of claim 16, wherein the second reflecting layer is at a distance from the optical waveguide plate, which distance constitutes an air gap.

18. (Previously presented) The lighting device of claim 16, wherein the second reflecting layer is provided on inside walls of the housing.

19. (Previously presented) The lighting device of claim 15, wherein the edges of the cavities lying opposite the upper side are surrounded by a third reflecting layer.

20. (Previously presented) The lighting device of claim 13, wherein the first reflecting layer is prolonged by a portion continuing along the side walls of the cavity.